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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,337	04/28/2006	Hitoshi Naoe	1248-0867PUS1	5138

2292 7590 11/30/2010

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EXAMINER	
WONG, XAVIER S	

ART UNIT	PAPER NUMBER
2462	

NOTIFICATION DATE	DELIVERY MODE
11/30/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/577,337	NAOE ET AL.	
	Examiner	Art Unit	
	Xavier Szewai Wong	2462	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14th September 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 14th June 2010, 6th July 2010 and 7th September 2010 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Response to Arguments

Applicant's arguments and amendments have been considered but are not persuasive.

Claims 6 and 16: regarding the single disconnection request, it is interpreted that the single request can still be applied to only two contiguously adjacent layers (IrLMP and IrLAP) while excluding any layer that does not require command and data because there is no layer that does not require the command and the data; in other words, the IrLMP layer and the IrLAP layer require command and data in order to disconnect each other.

Claims 1, 7, 11, 12, 13, 17, 22 and 23: regarding the single connection request it is interpreted that the single request can still be applied to only two contiguously adjacent layers (L3 and L2) while excluding any layer that does not require command and data because there is no layer that does not require the command and the data; in other words, the L3 layer and the L2 layer require command and data in order to connect to each other.

It is highly recommended that amendments to be made to specify the contiguously adjacent layers as "*at least three layers*" or "*more than two layers*" in order to overcome the interpretation above. In addition, further specifying the claim limitations with *Infrared technology-related* terms can also overcome prior art of record.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 11 and 21 are maintained rejected under 35 U.S.C. 101 because "a computer readable medium" may be *transitory*. Insert -- non-transitory -- prior to "computer readable medium."

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims **6** and **16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (JP 1998-107737 A) in view of Ozawa et al (JP 1997-224069 A, Ozawa).

Claim **6**: Takahashi teaches a transmitter which carries out communication with a receiver by establishing connection of their plurality of communication layers (abstract solution: IrLMP and IrLAP layers),

the transmitter (fig. 5: IR transmitter) comprising:

disconnection request generating means (fig. 5: element 61) for generation a disconnection request containing a command and data required for disconnecting a

number of contiguously adjacent layers among the plurality of communication layers ([0052] lines 4-9: IrLMP level sends a disconnection data frame request); and

disconnection request transmitting means for transmitting the disconnection request to the receiver ([0053]: transmitter A sends disconnection request to receiver B).

Takahashi does not very particularly show that the single disconnection request disconnects the plurality of layers. Ozawa also shows the single disconnection request to disconnect each of the plurality of layers (fig. 3: the single "disconnection request" is to disconnect each of the plural layers of IrLMP and IrLAP). It would have been obvious to one of ordinary skill in the art when the invention was created to utilize a single disconnection request for all layers shown as taught by Ozawa in the transmitter of Takahashi so multiple disconnection requests are not needed, thus, save resources.

Takahashi-Ozawa, in *combination*, still teach the single connection request containing the command and the data required for the connection with the receiver for each of the contiguously adjacent layers *except for* communication layers which do not require transmission of the command and the data (Ozawa, fig. 3 and [0026]: the single "disconnection request" is to disconnect IrLMP and IrLAP layers that both require transmission of "command and data (by Takahashi)").

Claim **16**: Takahashi shows a receiver which carries out communication with a transmitter by establishing connection of their plurality of communication layers (abstract solution: IrLMP and IrLAP layers),

the receiver (fig. 4: receiver B) comprising:

disconnection request receiving means (fig. 4: IrLAP section of B) for receiving a disconnection request containing a command and data required for disconnecting a number of contiguously adjacent layers among the plurality of communication layers ([0019]: DISC-Frame 37; [0053]: DISC-Frame 13); and

disconnecting means (fig. 4: IrLMP section of B) for extracting the command and data from the disconnection request ([0020]: Disconnect Indication 38 comprises command for disconnection; fig. 12: (38); [0058]: data command for disconnection indicated), and carrying out disconnection for the plurality of communication layers based on the command and data ([0021]: Unnumbered Acknowledgement Frame acknowledges disconnection completion).

Takahashi does not very particularly show that the single disconnection request disconnects the plurality of layers. Ozawa also shows the single disconnection request to disconnect each of the plurality of layers (fig. 3: the single "disconnection request" is to disconnect each of the plural layers of IrLMP and IrLAP). It would have been obvious to one of ordinary skill in the art when the invention was created to utilize a single disconnection request for all layers shown as taught by Ozawa in the transmitter of Takahashi so multiple disconnection requests are not needed, thus, save resources.

Ozawa still teaches the single disconnection request containing the command and the data required for the disconnection with the receiver for each of the contiguously adjacent layers *except for* communication layers which do not require transmission of the command and the data (fig. 3: the single "disconnection request" is

to disconnect IrLMP and IrLAP layers that both require transmission of "command and data").

Takahashi-Ozawa, in *combination*, still teach the single connection request containing the command and the data required for the connection with the receiver for each of the contiguously adjacent layers *except for* communication layers which do not require transmission of the command and the data (Ozawa, fig. 3 and [0026]: the single "disconnection request" is to disconnect IrLMP and IrLAP layers that both require transmission of "command and data (by Takahashi)").

Claims **1**, **4**, **8**, **12**, **13**, **17**, **18**, **22**, **23**, **24**, **25**, **26** and **27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al (JP 1997-224069 A, Ozawa) in view of Ikeda et al (US 2005/0083885 A1, Ikeda).

Claim **1**: Ozawa teaches a transmitter which carries out communication with a receiver by establishing connection of their plurality of communication layers (fig. 1: IrLMP and IrLAP),

the transmitter (fig. 1: device 1) comprising:

connection request generating means (fig. 1: IrLMP 11) for generating a connection request and sending the connection request transmitting means for transmitting the connection request to the receiver (fig. 1: SNRM is sent from device 1 to device 2).

Ozawa also shows the single connection request to establish connection for each of the plurality of layers (fig. 1: the single connection request "2" is to connect each of the plural layers of IrLMP and IrLAP).

Ozawa does not very explicitly show "containing a command and data required for connecting a number of contiguously adjacent layers among the plurality of communication layers." Ikeda teaches a connection request containing a command and data required for connecting a number of contiguously adjacent layers among the plurality of communication layers ([0080]: actual establishment of Layer 3 connection (establishment of L3), creation of an IP address and a Binding Update message on the basis of the IP packet simultaneously with L2 connection processing – L3 and L2 are contiguous and the L3 connection establishment is simultaneous with that of L2). It would have been obvious to one of ordinary skill in the art when the invention was created to be motivated to reprogram the connection request of Ozawa to perform contiguous adjacent layers connection as taught by Ikeda for quick mobile to mobile handover and communication processing (Ikeda: abstract).

Ikeda still teaches the single connection request containing the command and the data required for connection with the receiver for each of the contiguously adjacent layers *except for* communication layers which do not require transmission of the command and the data ([0080] as explained above: it is interpreted that said L3 and said L2 do not require transmission of the command and the data because L3 and L2 require the command and data in order to connect to one another).

Claim **4**: Ozawa-Ikeda teaches connection setting means (fig. 1: IrLAP 12) for carrying out setting for each of the plurality of communication layers according to the response (fig. 1: connection handle step 2), without receiving the response from the receiver (fig. 1: connection request step 1).

Claims **8** and **18**: Ozawa-Ikeda teaches the communication is performed by infrared communication (*abstract*: Infrared).

Claim **12**: Ozawa teaches a communication method which carries out communication with a receiver by establishing connection of their plurality of communication layers (fig. 1: IrLMP and IrLAP; devices 1 and 2),

the communication method comprising the steps of:

generating, by connection request generating means (fig. 1: IrLMP 11), a connection request (fig. 1: connection request 1)and transmitting, by connection request transmitting means (fig. 1: IrLAP 12 of device 1) and the connection request to the receiver (fig. 1: SNRM step 3 is sent from device 1 to device 2). Ozawa also shows the single connection request to establish connection for each of the plurality of layers (fig. 1: the single connection request "2" is to connect each of the plural layers of IrLMP and IrLAP).

Ozawa does not very explicitly mention "containing a command and data required for connecting a number of contiguously adjacent layers among the plurality of communication layers." Ikeda teaches a connection request containing a command and data required for connecting a number of contiguously adjacent layers among the plurality of communication layers ([0080]: actual establishment of Layer 3 connection

(establishment of L3), creation of an IP address and a Binding Update message on the basis of the IP packet simultaneously with L2 connection processing – L3 and L2 are contiguous and the L3 connection establishment is simultaneous with that of L2). It would have been obvious to one of ordinary skill in the art when the invention was created to be motivated to reprogram the connection request of Ozawa to perform contiguous adjacent layers connection as taught by Ikeda for quick mobile to mobile handover and communication processing (Ikeda: abstract). Ikeda still teaches the single connection request containing the command and the data required for connection with the receiver for each of the contiguously adjacent layers *except for* communication layers which do not require transmission of the command and the data ([0080] as explained above: it is interpreted that said L3 and said L2 do not require transmission of the command and the data because L3 and L2 require the command and data in order to connect to one another).

Claims **13** and **22**: Ozawa teaches a receiver which carries out communication (method) with a transmitter by establishing connection of their plurality of communication layers (fig. 1: device 2 layers IrLAP and IrLMP),

the receiver (fig. 1: device 2) comprising:

connection request receiving means (fig. 1: device 2 IrLAP 22) for receiving a connection request (fig. 1: connection request 1) and connection establishing means (fig. 1: device 2 IrLMP 21) for extracting the command and data from the connection request ([0030] lines 1-3: IrLAP 22 outputs a connection *instruction* to IrLMP 21 in step 4 – such that IrLAP 22 can extract the instruction), and establishing connection for the plurality of communication layers based on the command and data ([0030] lines 3-6: connection

response step 5, then an unnumbered acknowledgement in step 6 is sent to device 1 to indicate successful connection). Ozawa also shows the single connection request to establish connection for each of the plurality of layers (fig. 1: the single connection request "2" is to connect each of the plural layers of IrLMP and IrLAP).

Ozawa does not very explicitly show the connection request "containing a command and data required for connecting a number of contiguously adjacent layers among the plurality of communication layers." Ikeda teaches connection request containing a command and data required for connecting a number of contiguously adjacent layers among the plurality of communication layers ([0080]: actual establishment of Layer 3 connection (establishment of L3), creation of an IP address and a Binding Update message on the basis of the IP packet simultaneously with L2 connection processing – L3 and L2 are contiguous and the L3 connection establishment is simultaneous with that of L2). It would have been obvious to one of ordinary skill in the art when the invention was created to be motivated to reprogram the connection request of Ozawa to perform contiguous adjacent layers connection as taught by Ikeda for quick mobile to mobile handover and communication processing (Ikeda: abstract). Ikeda still teaches the single connection request containing the command and the data required for connection with the receiver for each of the contiguously adjacent layers *except for* communication layers which do not require transmission of the command and the data ([0080] as explained above: it is interpreted that said L3 and said L2 do not require transmission of the command and the data because L3 and L2 requires the command and data in order to connect to one another).

Claim **17**: Ozawa teaches a receiver which carries out communication (method) with a transmitter by establishing connection of their plurality of communication layers (fig. 1: device 2 layers IrLAP and IrLMP),

the receiver (fig. 1: device 2) comprising:

connection request receiving means (fig. 1: device 2 IrLAP 22) for receiving a connection request (fig. 1: connection request 1); *or*

a connection request (fig. 1: communication request 1) containing a command and data required for establishing connection of one of the plurality of communication layers (fig. 1: connection request step 1 – since out of the plurality of two contiguously adjacent layers IrLMP and IrLAP exist in this example, the connection request is setting up only with one layer, which is IrLAP, out of the two layers); and

connection establishing means (fig. 1: device 2 IrLMP 21) for extracting the command and data from the connection request ([0030] lines 1-3: IrLAP 22 outputs a connection *instruction* to IrLMP 21 in step 4 – such that IrLAP 22 can extract the instruction), and establishing connection for the plurality of communication layers based on the command and data ([0030] lines 3-6: connection response step 5, then an unnumbered acknowledgement in step 6 is sent to device 1 to indicate successful connection). Ozawa also shows the single connection request to establish connection for each of the plurality of layers (fig. 1: the single connection request "2" is to connect each of the plural layers of IrLMP and IrLAP). Ikeda still teaches the single connection request containing the command and the data required for connection with the receiver for each of the contiguously adjacent layers *except for* communication layers which do not require

transmission of the command and the data ([0080] as explained above: it is interpreted that said L3 and said L2 do not require transmission of the command and the data because L3 and L2 requires the command and data in order to connect to one another).

Claims **23** and **27**: Ozawa teaches a communication system includes a transmitter and a receiver which carry out communication by establishing connection of their plurality of communication layers (fig. 1; *abstract*),

the transmitter (fig. 1: device 1) comprising:

connection request generating means (fig. 1: IrLMP 11) for generating a connection request (fig. 1: connection request 1) and connection request transmitting means (fig. 1: IrLAP 12 of device 1) for transmitting the connection request to the receiver (fig. 1: SNRM step 3 is sent from device 1 to device 2); and

the receiver (fig. 1: device 2) comprising:

connection request receiving means (fig. 1: device 2 IrLAP 22) for receiving a connection request; and connection establishing means (fig. 1: device 2 IrLMP 21) for extracting the command and data from the connection request ([0030] lines 1-3: IrLAP 22 outputs a connection *instruction* to IrLMP 21 in step 4 – such that IrLAP 22 can extract the instruction), and establishing connection for the plurality of communication layers based on the command containing data indicating that a destination of transmission is not specified (e.g. the connection request simply setup connection between IrLMP layer and IrLAP layer and there is no specifying of any so-called "destination") and data ([0030] lines 3-6: connection response step 5, then an unnumbered acknowledgement in

step 6 is sent to device 1 to indicate successful connection). Ozawa also shows the single connection request to establish connection for each of the plurality of layers (fig. 1: the single connection request "2" is to connect each of the plural layers of IrLMP and IrLAP).

Ozawa does not very explicitly show the transmitted or received connection request "containing a command and data required for connecting a number of contiguously adjacent layers among the plurality of communication layers." Ikeda teaches connection request containing a command and data required for connecting a number of contiguously adjacent layers among the plurality of communication layers ([0080]: actual establishment of Layer 3 connection (establishment of L3), creation of an IP address and a Binding Update message on the basis of the IP packet simultaneously with L2 connection processing – L3 and L2 are contiguous and the L3 connection establishment is simultaneous with that of L2). It would have been obvious to one of ordinary skill in the art when the invention was created to be motivated to reprogram the connection request of Ozawa to perform contiguous adjacent layers connection as taught by Ikeda for quick mobile to mobile handover and communication processing (Ikeda: abstract). Ikeda still teaches the single connection request containing the command and the data required for connection with the receiver for each of the contiguously adjacent layers *except for* communication layers which do not require transmission of the command and the data ([0080] as explained above: it is interpreted that said L3 and said L2 do not require transmission of the command and the data because L3 and L2 requires the command and data in order to connect to one another).

Claim **24**: Ozawa-Ikeda teaches the plurality of communication layers include at least one upper-level protocol layer in addition to a data link layer (Ikeda, [0080]: layer 3 = upper-level protocol (network layer) in addition to layer 2 = data link layer).

Claim **25**: Ozawa-Ikeda teaches the at least one upper-level protocol layer includes *one or more* of a *network layer*, transport layer, and a session layer (Ikeda, [0080]: layer 3 = upper-level protocol (network layer) in addition to layer 2 = data link layer).

Claim **26**: Ozawa-Ikeda teaches the connection request generated by the connection request generating means comprises, in addition to a connection parameter for a data link layer, one or more connection parameters for establishing a connection between one or more upper-level protocol layers (Ikeda, [0080]: an actual establishment of Layer 3 connection (establishment of L3), creation of an IP address and a Binding Update message on the basis of the IP packet simultaneously with L2 connection processing).

Claims **2**, **3** and **14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al (JP 1997-224069 A, Ozawa) in view of Ikeda et al (US 2005/0083885 A1, Ikeda) and in further view of Krishnamurthy et al (US 7363534 B1, Krishnamurthy).

Claim **2**: Ozawa-Ikeda teaches the connection request generating means yet not exactly "a command for requesting the receiver to transmit a response with respect to the connection request." Krishnamurthy teaches a command for requesting the receiver to transmit a response with respect to the connection request (col. 7 lines 51-65: LCP Configure-Request that comprises of *authentication* protocol; wherein *authentication* is

interpreted to be requiring a reply from a partner to check for compatibility). It would have been obvious to one of ordinary skill in the art when the invention was created to modify the connection request of Ozawa to include a command for requesting the receiver to transmit a response with respect to the connection request as taught by Krishnamurthy to ensure link-layers are connected without error.

Claim **3**: Ozawa-Ikeda-Krishnamurthy teaches connection setting means (fig. 1: IrLAP 12) for carrying out setting for each of the plurality of communication layers according to the response (Ozawa, fig. 1: UA step 6 → connection confirmation step 7), which is received from the receiver as a response to the connection request (Ozawa, fig. 1: connection instruction step 4 & reply step 5).

Claim **14**: Ozawa-Ikeda teaches response transmitting means for transmitting a response yet not exactly "in case when the connection request contains a command for requesting transmission of response to the connection request." Krishnamurthy teaches in case when the connection request contains a command for requesting transmission of response to the connection request (col. 7 line 66 – col. 8 line 10 & 44-45: LCP Configure-Ack responds to the Configure-Request for configuration compatibility and authentication). It would have been obvious to one of ordinary skill in the art when the invention was created to modify the response transmitting means of Ozawa to respond in case a command for requesting the receiver to transmit a response to the connection request as taught by Krishnamurthy to ensure link-layers are connected without error.

Claims **5** and **15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al (JP 1997-224069 A, Ozawa) in view of Ikeda et al (US 2005/0083885 A1, Ikeda) and in further view of Pettus et al (US 5515508, Pettus).

Claim **5**: Ozawa-Ikeda teaches the transmitter comprising the connection request generating means (fig. 1: IrLAP 12) yet not expressively "a command for requesting the receiver to transmit a response during data exchange." Pettus teaches a command for requesting the receiver to transmit a response during data exchange (col. 18 lines: 30-46: service request ... "streamed" onto the data stream to a remote node).It would have been obvious to one of ordinary skill in the art when the invention was created to implement a function to send a command for requesting the receiver to transmit a response during data exchange as taught by Pettus into connection request generating means of Ozawa-Ikeda to allow dynamic configuration of protocol stacks between two devices.

Claim **15**: Ozawa-Ikeda teaches the receiver comprising response transmitting means for transmitting a response (fig. 1: IrLAP 22 → UA step 6) yet not expressively "in case where the connection request contains a command for requesting transmission of response during data exchange." Pettus teaches sending a response in case where the connection request contains a command for requesting transmission of response during data exchange (col. 19 lines 5-13: if a reply is required... dispatcher inserts reply onto a data stream... forwards to client node). It would have been obvious to one of ordinary skill in the art when the invention was created to implement a function to detect in case where the connection request contains a command for requesting transmission of response during

data exchange as taught by Pettus into the response transmitting means of Ozawa-Ikeda to allow dynamic configuration of protocol stacks between two devices.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al (JP 1997-224069 A, Ozawa) in view of Ikeda et al (US 2005/0083885 A1, Ikeda) and Elzur (US 2003/0169744 A1) and in further view of Ichimi (US 6865687 B1).

Claim 7: Ozawa teaches a communication system includes a transmitter and a receiver which carry out communication by establishing connection of their plurality of communication layers (fig. 1; *abstract*),

the transmitter (fig. 1: device 1) comprising:

first connection request generating means (fig. 1: IrLMP 11) for generating a connection request and connection request transmitting means for transmitting to the receiver the connection request generated (fig. 1: IrLMP 11 sends SNRM step 3). Ozawa also shows the single connection request to establish connection for each of the plurality of layers (fig. 1: the single connection request "2" is to connect each of the plural layers of IrLMP and IrLAP).

Ozawa does not very explicitly show the transmitted or received connection request "containing a command and data required for connecting a number of contiguously adjacent layers among the plurality of communication layers." Ikeda teaches connection request containing a command and data required for connecting a number of contiguously adjacent layers among the plurality of communication layers ([0080]: actual establishment of Layer 3 connection (establishment of L3), creation of an IP

address and a Binding Update message on the basis of the IP packet simultaneously with L2 connection processing – L3 and L2 are contiguous and the L3 connection establishment is simultaneous with that of L2). It would have been obvious to one of ordinary skill in the art when the invention was created to be motivated to reprogram the connection request of Ozawa to perform contiguous adjacent layers connection as taught by Ikeda for quick mobile to mobile handover and communication processing (Ikeda: abstract).

Yet, "*second* connection request generating means for generating a connection request containing a command and data required for connection *one of the plurality* of communication layers; and

[connection request transmitting means] transmitting to the receiver the connection request generated by the *first or second connection request generating means*" are not very explicitly mentioned by Ozawa-Ikeda.

Elzur teaches second connection request generating means (fig. 2: hardware module 20) for generating a connection request containing a command and data required for connection one of the plurality of communication layers ([0006] line 3: set-up request; [0020] lines 6-10: route the incoming packet to the appropriate software layer);

connection request transmitting means (fig. 2: hardware module output port towards the layers) transmitting to the receiver the connection request generated by the first or second connection request generating means ([0018] lines 24-35: tests layer to see if it is appropriate layer before selecting layer to route towards). It would have been obvious to one of ordinary skill in the art when the invention was created to implement the second connection request generating means and to transmit to the receiver the connection

request generated by the first or second connection request generating means selected by the selecting means as taught by Elzur to the transmitter device of Ozawa-Ikeda to provided the different types of connections requested.

Yet, "selecting means for selecting either of the first connecting means and the second connecting means and the second connecting means so as to generate the connection request; and the first and second connection request generating means *selected by the selecting means*" are not exactly mentioned by Ozawa-Ikeda-Elzur.

Ichimi teaches selecting means (fig. 5: line selector 51) for selecting either of the first connecting means and the second connecting means and the second connecting means so as to generate the connection request (col. 5 lines 14-27: selector); and the first and second connection request generating means *selected by the selecting means* (col. 5 lines 17-21 & 29-34: first or second physical layer is selected for connection). It would have been obvious to one of ordinary skill in the art when the invention was created to add a selector as taught by Ichimi to select between the first and second connection request generating means of Ozawa, in combination with Ikeda and Elzur, in order to provide the different types of connections requested and allow communication continue.

Claim **9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al (JP 1997-224069 A, Ozawa) in view of Ikeda et al (US 2005/0083885 A1, Ikeda) and in further view of Salokannel et al (US 2005/0014468 A1, Salokannel).

Claim **9**: Ozawa-Ikeda teaches the transmitter but not exactly as "a mobile phone." Salokannel depicts a mobile phone (fig. 1: 110) transmitting infrared signals to

receiving devices ([0027]: Bluetooth, infrared is traditionally used). It would have been obvious to one of ordinary skill in the art when the invention was created to implement the infrared layer communication structure as taught by Ozawa-Ikeda-Salokannel into the mobile phone of Salokannel to ensure connection between the transmitter/phone and receiver is in sync.

Claim **10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al (JP 1997-224069 A, Ozawa) in view of Ikeda et al (US 2005/0083885 A1, Ikeda) and in further view of Chen et al (US 2003/0107651 A1, Chen).

Claim **10**: Ozawa-Ikeda teaches the transmitter but not exactly as "an image-capturing device which transmits a captured image to the receiver." Chen teaches an image-capturing device which transmits a captured image to the receiver in an infrared communication environment (fig. 3: digital camera sending a JPEG image to a printer receiver; [0031]). It would have been obvious to one of ordinary skill in the art when the invention was created to implement the infrared layer communication structure as taught by Ozawa-Ikeda into the digital camera of Chen to ensure connection between the transmitter/camera and receiver/printer is in sync.

Claims **11**, **19**, **20** and **21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al (JP 1997-224069 A, Ozawa) in view of Ikeda et al (US 2005/0083885 A1, Ikeda) and in further view of Tada et al (US 2004/0081436 A1, Tada).

Claims **19** and **20**: Ozawa-Ikeda teaches the receiver yet not expressively as "a broadcast receiving and recording device which receives and records broadcast received from the transmitter." Tada teaches a recording-receiving device which receives and records broadcast received from the transmitter ([0071]: a digital-broadcast-sending/receiving unit 1 that connects to an antenna ANT; a recording unit 2 that functions as a recording device). It would have been obvious to one of ordinary skill in the art when the invention was created to modify the receiver of Ozawa-Ikeda to implement the receiving-recording functions for broadcast contents as taught by Tada for facilitating recording live contents streamed on television, as an example.

Claims **11** and **21**: Ozawa-Ikeda teaches the transmitter and receiver yet not "computer programs causing a computer to function as the respective means of the transmitter or the respective means of the receiver." Tada teaches computer programs causing a computer to function as the respective means of the transmitter or the respective means of the receiver ([0071]: a digital-broadcast-*sending/receiving unit* 1 that connects to an antenna ANT – thus, the unit can be programmed to become a sending or receiving unit). It would have been obvious to one of ordinary skill in the art when the invention was created to modify the transmitter and receiver of Ozawa-Ikeda to implement computer programs to function as the respective means of the transmitter or the respective means of the receiver as taught by Tada as the flexibility of allowing a device to become a receiver (e.g. for reproducing and recording contents) and a transmitter (e.g. for providing contents).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is 571.270.1780. The examiner can normally be reached on Monday through Friday 10:30 am - 8:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571.272.3174. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

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